

AMENDMENT TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1.-21. (canceled)

22. (withdrawn) A process for forming an optical element by molding at least two polymerizing reactants comprising:

mixing at least two polymerizing reactants to obtain a reacting mixture;

forcing the mixture under pressure through an injection duct into a sealed mold cavity comprising an entry side comprising a casting opening and an evacuation side; and

providing a laminar flow of the mixture in a spout comprising a progressive enlarging transversal section between an outlet opening of the injection duct and the casting opening of the mold cavity, thereby reducing turbulence in the laminar flow, the evacuation side of the mold cavity adapted to evacuate air contained in the mixture before solidification of the element.

23. (withdrawn) The process of claim 22, further defined as a process for forming an optical element comprising a substantially circular shape and a substantially regular transversal thickness wherein the sealed mold cavity has a substantially circular shape and a transversal thickness corresponding to the circular shape and the transversal thickness of the optical element, wherein the spout defines a substantially flat space having an axis substantially passing by the center of the mold cavity and being limited by two flat faces and two diverging sides inclined on either side of the axis and tangentially connecting to the circular shape of the mold cavity.

24. (withdrawn) The process of claim 23, wherein the casting opening of the mold cavity opens substantially along a sector of the circular shape of the mold cavity and the flat faces of the spout each have a substantially trapezoidal shape with a long curvilinear base extending along the sector of the mold cavity and a short base connecting the outlet opening of the injection duct.

25. (withdrawn) The process of claim 22, wherein the mold cavity and the spout are tilted relative to a horizontal plane such that the mold cavity comprises a low entry side and a high evacuation side.
26. (withdrawn) The process of claim 22, further comprising compressing the molded mixture after the mold cavity has been filled.
27. (withdrawn) The process of claim 22, further comprising trapping a first part of the mixture flowing in the injection flow, in a portion of the injection duct between the outlet opening and a closed end.
28. (withdrawn) The process of claim 22, wherein the mold cavity is limited by two plates between which is inserted a circular seal comprising at least a vent for evacuating air during mold filling, the process further defined as comprising exerting an increased clamping force between the plates at the end of mold filling, by compressing the circular seal and closing the vent, and then applying a post-injection pressure in the molded mixture.
29. (withdrawn) The process of claim 28, wherein the clamping force for compressing the circular seal is increased during curing of the reactants in order to compensate for shrinkage.
30. (withdrawn) The process of claim 22, further comprising accumulating evacuated air in a space on the evacuation side of the mold.
31. (withdrawn) The process of claim 22, further comprising evacuating air via an aperture provided on the evacuation side of the mold cavity and closing the aperture when the mold cavity is completely filled by the injected mixture.
32. (previously presented) A molding installation for forming an optical lens having a substantially circular shape and a substantially regular transversal thickness comprising:
a mixing chamber for preparing a mixture to be molded;
a sealed mold cavity with a substantially circular shape, comprising a center, and a transversal thickness corresponding to that of the lens to be obtained, the mold

cavity being limited by two plates between which is inserted an elongated seal, and comprising an entry side provided with a casting opening and an evacuation side opposite to the entry side;

an injection duct connecting the mixing chamber to the mold cavity, the injection duct having an outlet opening;

a spout connecting the outlet opening of the injection duct to the casting opening of the mold cavity;

a filler adapted to force the flow of the mixture from the mixing chamber to the mold cavity via the injection duct and the spout for filling the mold cavity under pressure during use; and

at least a vent on the evacuation side of the mold cavity;

the spout defining a substantially flat space having an axis substantially passing by the center of the mold cavity and being limited by two flat faces and two diverging sides inclined on either side of the axis and tangentially connecting to the circular shape of the mold cavity.

33. (previously presented) The molding installation of claim 32, wherein the injection duct is prolonged by a portion extending from the outlet opening up to a closed end, the portion forming a reserve for trapping a first part of the mixture flowing in the injection duct.

34. (previously presented) The molding installation of claim 32, wherein the vent provided on the evacuation side of the mold cavity comprises at least an aperture which is small enough to avoid reactants contained in the mixture to flow outside.

35. (previously presented) The molding installation of claim 32, wherein the vent provided on the evacuation side of the mold cavity is closed by a removable valve, the valve being open during mold filling and being closed after air evacuation and during the application of a post-injection pressure in the mold cavity.

36. (previously presented) The molding installation of claim 32, further comprising a space opening on the evacuation side of the mold cavity and adapted to trap air contained in the mixture, the mold cavity and the space being surrounded by a common continuous seal.

37. (previously presented) The molding installation of claim 32, wherein the vent comprises an aperture provided in the seal on the evacuation side of the mold cavity.

38. (previously presented) The molding installation of claim 37, the molding installation being adapted for the application of a post-injection pressure in the mold cavity after filling and air evacuation, the pressure compressing the seal and closing the vent during use.

39. (previously presented) The molding installation of claim 38, further defined as comprising a plug adapted to close the aperture during use wherein there is slight play for allowing air evacuation during filling of the mold cavity by the injected mixture, and the plug is adapted to expand and close the play due to an increase of the temperature when the mold cavity is filled.

40. (previously presented) The molding installation of claim 32, wherein the mold cavity extends along a titled median plane making an angle different from zero with a horizontal plane and comprises a low entry side and a high evacuation side, wherein the spout is an enlarging spout, and wherein the two flat faces are trapezoidal.

41. (previously presented) The molding installation of claim 40, wherein the flat trapezoidal faces of the enlarging spout are substantially parallel to the median plane of the mold cavity.

42. (previously presented) The molding installation of claim 40, wherein the flat trapezoidal faces of the enlarging spout are symmetrically tilted at an angle on either side of the median plane of the mold cavity, and the flat faces slightly converge from the outlet opening of the injection duct to the inlet opening of the mold cavity.